Accelerator Department
BROOKHAVEN NATIONAL LABORATORY
Associated Universities, Inc.
Upton, New York

AGS DIVISION TECHNICAL NOTE

No. 90

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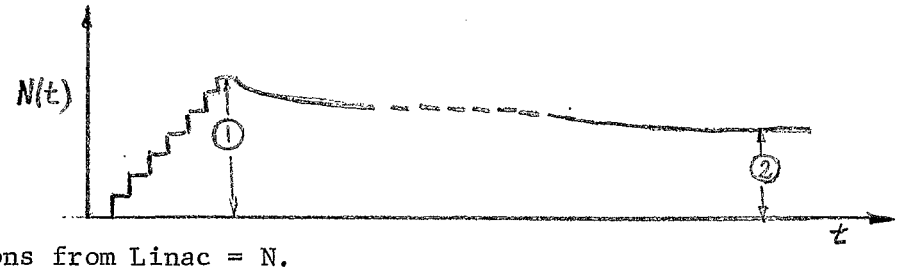
BEAM INTENSITY IN THE AGS



Protons from Linac = N.

Protons at (1) = $\eta_1 N = N_{(1)}$; η_1 = efficiency to end of multiturn.

Protons at (2) = $\eta_1 \eta_2 N = N_{(2)}$; η_2 = efficiency from (1) to (2).

	50 MeV Injection	200 MeV 1/18/72	With Some Improvement 200 MeV
η_1	50%	60%	70%
η_2	30%	36%	50%
$\eta_1\eta_2$	15%	21.6%	35%
I	40 ma	40 ma	100 ma
Turns	10_T	10_T	10_T
Protons/ma turn	5×10^{10}	3×10^{10}	3×10^{10}
N	2×10^{13}	1.2×10^{13}	3×10^{13}
$N_{(1)} = \eta_1 N$	1×10^{13}	7.2×10^{12}	2.1×10^{13}
$N_{(2)} = \eta_1\eta_2 N$	3×10^{12}	2.6×10^{12}	1.0×10^{13}

Distr: AD Staff